

**MASSACHUSETTS-AMERICAN WATER COMPANY
DOCKET NO. 00-105**

**First Set of Information Requests
By the Settlement Intervention Staff
of the Department of Telecommunications & Energy**

Witness Responsible:
John Watkins

SIS 1-1 Refer to the Billing Analysis (Tab 21) at H9. Please explain the derivation of the “ less credit adjustment figure” of \$3,089,093. Include an explanation of its origin and calculation.

Response:

The detail of the “ less credit adjustment figure” of \$3,089,093, on page #9 Tab 21, can be found on page H12 of Tab 21. Page H12 shows the month by month amounts for the total shown on page H9. The majority of the amount, \$3,000,495.64, in question is from August 1999. There was a billing error to a customer’s account on August 20, 1999 in the amount of \$3,000,000. (See attached.) This error was corrected on August 24, 1999 before the bill was sent to the customer.

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Witness Responsible:
John Watkins

SIS 1-2 Refer to the Billing Analysis (Tab 21) at H14. Please explain the 26,877 gallon usage on December, 1999.

Response:

The usage of 26,877 gallons in December 1999 for the quarterly residential customers is calculated by the Additional, Final, Local Billing Summary Report (AFL). This report calculates the usage and revenue that is not covered in the Bill Analysis. An Additional Bill is a bill to correct a previous bill, for example, if an estimate was incorrect or usage was too high or low on an estimate. A Local Bill could be a miscellaneous bill or any manual bill that is calculated. A Final Bill would be the last bill a customer would receive or for seasonal customers it would be the last bill of the year.

The 26,877 gallons was calculated from the attached AFL report for December 1999. The total for residential customers from December 1999 was 27,239 gallons. This total includes partial bills which have already been included in the Bill Analysis, therefore, the 362 gallons must be removed from the AFL report so as to not overstate the Company's usage or revenues. The actual usage for residential quarterly customers for December 1999, was 26,877 gallons (27,239-362), the majority of which were the final seasonal bills for seasonal customers. This usage number is high due to mis-read meters that were corrected in the month of the mis-read. See the attached Revenue Summary for December 1999, which shows 23,171 gallons in credits for quarterly residential customers. This figure can also be found on page H19 of Tab21. Therefore, the actual usage for the combined AFL report and the Revenue Summary credits are 3,706 gallons (26,877 - 23,171).

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Witness Responsible:
John Watkins

SIS 1-3 Refer to the Billing Analysis (Tab 21) at H14, H17. Please reconcile the usage figures and gross consumption figures, respectively, as shown under the Quarterly Residential categories.

Response:

The gross consumption figures on page H17 of Tab 21 are for monthly residential accounts, of which there are no monthly residential customers for the Company. The usage figures on page H14 of Tab 21 are for quarterly Additional, Final, and Local (AFL) Bills. Please refer to page H16 of Tab 21 for the consumption reconciliation for the Hingham District. As is reflected therein, the Net Revenue Summary equals the Bill Analysis plus the AFL less credit adjustments. The Bill Analysis includes all regular and partial bills, therefore, the Additional, Final, and Local bills must be added in order to properly account for all revenues.

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Witness Responsible:
John Watkins

SIS 1-4 Refer to the Billing Analysis (Tab 21) at H2, M2. Please explain how the final percentage, as shown between the double lines, is calculated.

Response:

The final percentage of 23.72%, from Tab 21 page H2, is calculated by dividing the total change in revenues divided by the total revenue at 6/30/00 ($\$813,211 / 3,427,906 = 23.72\%$).

The final percentage of 20.17%, from Tab 21 page m2, is calculated in the same manner as the above calculation ($\$147,739 / \$732,362 = 20.17\%$).

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Witness Responsible:
Stephen Alcott

SIS 1-5 Refer to the Alcott Cost of Service Study. Please explain the origin and implications, if any, of rates used on workpaper calc-A; specifically the rates “plugged” in the Block titled “Proposed rates per TG”?

Response:

The referenced rates are the rates as proposed for the Company’s initial filing. The workpaper shows (1) equivalent monthly bills by meter size times the proposed monthly service charges to yield revenues from service charges, (2) the proposed volumetric rates multiplied times the metered consumption (labeled “adjusted total” on workpaper calc-A) to yield revenues from volume charges and (3) adjustments labeled “reconciliation” and AFL (additional, final and local billing). Workpaper calc-B shows a similar calculation for service area B.

The proposed rates were selected so that the revenues generated in each customer classification (Residential, Commercial, etc.) approximately equal the allocated cost by customer classification. Mechanically, the selection process involved calculating the revenue derived from the proposed monthly service charges, subtracting said revenues from the total allocated costs, and then dividing the remainder by the metered consumption to yield rates per 1000 gallons. The overall results are summarized on workpaper “cf-pro”, entitled COMPARISON OF REVENUES at PROPOSED RATES with ALLOCATED COST.

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Witness Responsible:
Steven Tambini

SIS 1-6 Refer to Exhibit SJT-2, at 3. Please provide a copy of all filings to the Department of Environmental Protection called for in its Consent Agreement under Sections 23 (Leak Survey Report), 24 (Unaccounted for water plan), 25 (Progress Report), 30 (Scope of Work/Water Consumption Report), 31 and 32 (Draft and Final Water Needs Report).

Response:

Attached are copies of :

?? 1999 Summary of Leak Surveys dated January 31, 2000 (No. 23)
?? Unaccounted for Water Plan (No. 24)
?? Unaccounted for Water Progress Report (No. 25)
?? Scope of Work for Water Needs Report (No. 30)
?? Draft Water Needs Report (No. 31)

The final Water Needs Report (No. 32) is not due yet and is not complete

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Witness Responsible:
Steven Tambini

SIS 1-7 Refer to Exhibit SJT-2, at 6. Please provide a copy of all semi-annual reports to the Department of Environmental Protection called for under Section 42.

Response:

Attached are copies of the April 2000 and October 2000 semi-annual reports.

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Witness Responsible:
Steven Tambini

SIS 1-8 Refer to Exhibit SJT-2, at 5. Please provide the total penalties paid by the Company to Department of Environmental Protection for 1999 and 2000 as per Sections 37-39.

Response:

In accordance with ACOP-NE-99-F001 paragraph 37, the Company paid \$5,000 for violations cited in the consent order. In lieu of paying the \$8,000 on or before February 28, 2001, the Company completed the demonstration of the water conservation project and the report from paragraph 33 in accordance with the terms and conditions of that paragraph. The cost of the project was \$8,396.14.

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Witness Responsible:
Rod Nevirauskas

SIS 1-9 Please identify which accounts on the Company's schedules, if any, that the Department of Environmental Protection applied penalties to.

Response: DEP penalties paid in the test year totaled \$13,396 (\$8,396 & \$5,000). These amounts are included as a portion of the following expense line item amounts:

Exh. 1, Sch. 3, line 6

Exh. 1, Sch. 5, line 11 - Account 610.11

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Witness Responsible:
Steven Tambini

SIS 1-10 Refer to Exhibit SJT-1, at 3. Please clarify the statement at lines 4-5 and indicate if the Company has or has not applied to the Department of Environmental Protection for a new threshold volume cap.

Response:

The threshold volume cap is set by the MADEP by regulation. The threshold volume is 100,000 gallons per day for all withdrawals under the Water Management Act within the Commonwealth of Massachusetts by any user. The Company has not applied to the Department of Environmental Protection for additional withdrawal.

In 1999 and 2000, the withdrawal by MAWC was under the withdrawal registration limit plus the threshold volume. MADEP has indicated that essentially, all of the requirements of the Consent Order need to be met before additional water would be considered, including water conservation measures.

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Witness Responsible:
Keith Bossung

SIS 1-11 Please provide an itemized schedule that provides, in detail, all expenses the Company has incurred to comply with the consent order (ACOP-NE-99-001) entered into between the Company and the Department of Environmental Protection.

Response:

Itemized schedule of expenses associated with compliance of the DEP consent order is attached. All have been capitalized as a portion of the Comprehensive Planning Study.

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Witness Responsible:
Rod Nevirauskas

SIS 1-12 Refer to the Company's response to Information Request DTE-01-13. Please provide the supporting invoice for the \$166.00 Food/Beverage Expenditure incurred on December 31, 1999 for "Y2K monitoring."

Response:

See attached.

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Witness Responsible:
John Spanos

SIS 1-13 Refer to the Gannett Fleming Depreciation Study at II-4. Please explain how the composite remaining life total (3.1) is calculated. In addition, please indicate if this is a weighted total.

Response:

The composite remaining life total, at the bottom of page II-4, of 3.1 represents the composite remaining life for all subaccounts for Account 391. The composite remaining life is calculated by dividing the future accruals of \$608,979 by the annual accruals of \$193,718. The 3.1 composite remaining life is a weighted total for Account 391.

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Witness Responsible:
John Spanos

SIS 1-14 Refer to the Gannett Fleming Depreciation Study at II-5. Under the category non-depreciable plant, please provide a further breakdown of the \$153,285.30 in assets contained within the category "Other source of supply land."

Response:

The \$153,285.30 of non-depreciable plant contained in "Other Source of Supply Land" is broken down as follows:

Oxford District

\$5,118.16	25 Acres of Right-of-Way for Burbank Reservoir
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Hingham District

\$ 2,864.67	Sanitary Easements for Prospect Street Well Site
1,588.25	Land on South Pleasant Street at Accord Brook
22,928.42	23.6 Acres for Free Street Wells
115.50	Right-of-Way at Free Street
88,696.00	1.79 Acres on Prospect Street for Station and Wells
8,670.55	Land for Fulling Mill Station

Millbury District

\$5,556.00	3.775 Acres on Millbury Avenue
3,612.00	Land for Wells on Oak Pond
2,500.00	Land for N. Main Street #1
7,500.00	Land for N. Main Street #2
4,135.75	Additional land for both N. Main Street Wells

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Witness Responsible:
Steven Tambini

SIS 1-15 Refer to the prefiled testimony of Mr. Tambini at 7. When will the Comprehensive Planning Study be completed? In addition, please provide the basis for the cost of the Comprehensive Planning Study.

Response:

The Comprehensive Planning Study costs are based upon other studies of similar scope for similarly sized systems. In addition, the project includes cost for work related specifically to Hingham water resource planning and regulatory issues that support the comprehensive planning study effort. By June 30, 2001 several key tasks under this project will be complete. These tanks include: a water audit, a water conservation plan; and several final CPS task reports reports on demand projections, source of supply, production and distribution. The task reports completed by June 30, 2001 will cost approximately \$230,000. All remaining tasks and task reports will be completed by December 31, 2001.

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Witness Responsible:
Keith Bossung

SIS 1-16 Refer to the prefiled testimony of Mr. Bossung at 12. Please provide any analysis conducted by the Company that resulted in the increased charges for "Other Services."

Response:

The analysis performed was based on general experience in regard to time requirement for the performance of the specified functions.

Turn on Fee –	
Thirty minutes (est'd ave. service time w/travel @ \$20.83, 2000 labor rate)-	\$10.41
Overheads (52% -Taxes, 401k, GI other payroll expenses)	5.41
Transportation cost (10 miles @Fed. Rate of \$0.345 per mile)	<u>3.45</u>
Total	\$19.72
Say	\$20.00
 Cross connection –	
Two man hours @ \$20.83	\$41.66
Overheads @ 52%	21.66
Transportation cost	3.45
Secretarial and Administration costs	<u>7.00</u>
Total	\$74.22
Say	\$75.00
 Second test – One hour ten min. @ \$20.83	\$24.29
Overheads	<u>12.62</u>
Total	\$36.91
Say	\$35.00
 After hours call out –	
Four hours overtime @ \$31.25	\$125.00
Transportation costs	3.45
Meal allowance	7.00
Secretarial and administration costs	<u>27.00</u>
Total	\$162.45
Say	\$165.00

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Witness Responsible:
Rod Nevirauskas

SIS 1-17 Refer to Exhibit 2, Schedule 13 and Tab 10 of the Company's Petition. Please explain why the annual expense for Automotive, Commercial General Liability and Property found in Schedule 13 do not match the values found in Tab 10.

Response:

The annual expense for Automotive, Commercial General Liability and Property in Schedule 13 are estimates of the fiscal year 2001 costs. As stated in Rod Nevirauskas's testimony on page 10, lines 8-12, this adjustment will be updated when actual costs are known. The actual costs are \$7,535 for Property Insurance, \$64,007 for General Liability, and \$6,949 for Automotive as per the attached schedule. Excess Liability will cost Massachusetts-American \$5,669 for the year of 2001.

	<u>Filed</u>	<u>Actual</u>
Automobile	\$7,829	\$6,949
Commercial General Liability	74,713	64,007
Property	8,256	7,535
Excess Liability	<u>0</u>	<u>5,669</u>
	<u>\$90,798</u>	<u>\$84,160</u>

The other costs reflected on Ex. 2, Sch. 13 are actual costs, and as such, did not require revision.

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Witness Responsible:
Rod Nevirauskas

SIS 1-18 Refer to Exhibit 2, Schedule 9. Please itemize each cost category listed that makes up the Company's rate case expense. Are the costs to prepare the cost of service study and/or the depreciation study contained within these costs? What portion of these costs does the Company estimate it will incur during the adjudicatory phase of this proceeding?

Response:

Please see attached for a breakdown of the \$165,000 expense for preparation and presentation of revenue requirement, testimony, and exhibits. Also, please note that these costs do not include any charges from February, 2001. The service company study was an estimate from Baryenbruch and Company. The legal expenses are an estimate for the entire case. Miscellaneous related expenses are for newspaper notices and other costs not related to an associate of the Company. All costs related to the cost of service study and depreciation study are accounted for under separate accounts, for general ledger purposes, and schedules for rate filing purposes; therefore, there are no costs associated with these items related to Exh. 2, Sch. 9.

All costs related to the data requests and some of the costs related to legal, service company study, and miscellaneous expenses, as well as a portion of the travel and lodging expenses will be incurred during the adjudicatory phase. Please note that there have been costs associated with the data requests incurred, but they have not been billed yet. The portion of the Company's estimate to be incurred during the adjudicatory phase will be dependent on the amount and types of data requests received and when the Company, Staff and Intervenors will potentially settle the case.

Should the case be settled among the parties in a fashion that would limit extensive discovery, while eliminating the evidentiary hearings and briefing process, potential savings of \$100,000 or more from the Company's estimate could be realized.

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Witness Responsible:
Rod Nevirauskas

SIS 1-19 Refer to Exhibit 2, Schedules 14 and 15. Please provide the basis for amortizing the depreciation study and the cost of service study over five years.

Response:

The cost of service study and depreciation study are amortized over a period of five years, as this interval is the generally accepted amortization period for these types of studies in many regulatory jurisdictions, including prior amortizations of this type in Massachusetts.

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Witness Responsible:
Rod Nevirauskas

SIS 1-20 Refer to Exhibit 2, Schedule 8. Please provide the basis for the unaccounted for water value of 13.99 percent for Millbury and Oxford.

Response:

The unaccounted for percent of 13.99% is calculated by 1) taking the difference between water sales (the amount we billed out) and system delivery (the amount we pumped out) and 2) dividing that result by the system delivery.

- 1) Amounts in MG
883,119 System Delivery
- 759,604 Water Sales
123,515 Unaccounted for
- 2) 123,515 Unaccounted for
divided by
883,119 System Delivery
13.99%

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Witness Responsible:
Rod Nevirauskas

SIS 1-21 Refer to Exhibit 2, Schedule 16. Please provide a description of the accounts listed under “Capital and Deferred Charges.”

Response:

Account 107 is for Construction Work in Progress (CWIP). The \$82,460 attributed to this account includes CWIP, JD Edwards Software Implementation, and the implementation of ORCOM customer service software.

Account 183.01 is Deferred Customer Service Project expenses. These charges include costs associated with the initial set-up of the call center.

Account 183.02 is Deferred Financial Services Project expenses. These charges include expenses related to the consolidation of certain business functions.

Account 186 are expenses related to Docket No. 00-105 that were recorded during the test year.

Account 426.29 is Other Income Deductions for the test year, which amounted to \$0.13.

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Witness Responsible:
Rod Nevirauskas

SIS 1-22 Refer to Exhibit 2, Schedule 17. Please provide any analysis performed by the Company to determine the cost-effectiveness of moving the service call center duties from Massachusetts to New York. How much money, if any, would the Company estimate it saves on an annual basis from the transfer of the service call center duties from Massachusetts to New York?

Response:

Prior to the year 2000, there was an informal reciprocal agreement whereby Mass-American would provide payroll and accounts payable services to four other New England subsidiary operating companies in return for customer service and customer accounting services provided by the Port Chester, NY customer call center. During that period, the cost of payroll and accounts payable services were essentially offset by the call center services that Mass-Am was receiving.

Early in 2000, the payroll and accounts payable services were no longer being performed out of the Mass-Am office. This responsibility was absorbed by the accounting group in Marlton, NJ, and as such, is billed to the New England companies through the service company. Due to the fact that it is more cost effective to provide call center responsibilities for the five New England operating subsidiaries from one central location rather than "re-staff" each individual company to provide their own call center, the office at Port Chester has been maintained. Beginning in January 2000, the Port Chester call center costs are being billed to the five users of the center consistent with each Company's customer count allocation. While no formal analysis was performed, it would stand to reason that it is more cost effective to provide customer call center services to multiple companies from a single location. Had the company made the decision to perform these services locally, additional costs would be incurred for 3 - 4 employees and related payroll overheads, adequate office space, as the Company's office relocation to Norwell does not provide the space necessary to assume call center responsibilities, and the phone lines and computer hardware and software investment to adequately provide service. The total costs involved in staffing, training, operating and maintaining a separate customer call center for Mass-Am customers would be in excess of the allocated costs of the Port Chester, NY costs included in the Company's cost of service.

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Witness Responsible:
Rod Nevirauskas

SIS 1-23 Refer to Exhibit 2, Schedule 19. Please provide the basis for amortizing the water conservation devices over three years.

Response:

Although the Company expended the funds for this project early in 2001, an amortization period of three years associated with cost recovery is appropriate, and is typical of amortization periods proposed and allowed for this type of expenditure in the past. The duration is also consistent with the interval that the Company would consider associated with the next proposal for conservation devices allocated to the Company's ratepayers.

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Witness Responsible:
Rod Nevirauskas

SIS 1-24 Refer to Exhibit 2, Schedule 24. Has the Pro Forma Committed Construction in all towns been assessed? If not, how did the Company derive the “Assessment” value for each of these pro forma plant additions?

Response:

Not all of the pro forma committed construction has been assessed as of yet, as it is not all in service as of yet. It will be assessed for property tax purposes shortly after placement into service. The assessment value included herein for ratemaking purposes is based on the original cost of each project, which is consistent with the methodology used in valuing all of the Company’s property by the taxing jurisdictions for property tax purposes.

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Witness Responsible:
Keith Bossung

SIS 1-25 Refer to page 183 of the Department's Order in D.P.U. 95-118. On this page, the Company was directed to report to the Department any instances in Hull or Hingham where 20 or more customers were impacted by low water pressure or potability problems. Has the Company made any such reports to the Department since the date of the order referenced above? If so, please provide copies of these reports. If not, have there been any instances to warrant such reports which the Company has not filed with the Department? If so, please state the nature of these situations, how the Company addressed them, and why the Company did not report these to the Department.

Response:

The Company has not experienced any occasion since the Department's Order in DPU 95-118 wherein 20 or more customers have been impacted by low water pressure or potability problems. Thus, no reports have been sent to the Department. However, There are occasions when water mains breaks require that water service to the area of the break is interrupted to allow the repair to be made. In such cases, the DTE, the local Health Board and the local Selectman's office is notified via fax. The notification includes the locations of the main break, the area and number of customers impacted by the temporary discontinuance of water service and the anticipated time that water service will be reestablished. In addition, in the infrequent event that the water service is anticipated to remain off for more than twelve hours, bottled water is provided to all affected customers.

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Witness Responsible:
Keith Bossung

SIS 1-26 Does the Company have any formal mechanisms in place to address customer complaints concerning water quality? If yes, please describe.

Response:

MAWC has a formal mechanism for addressing customer complaints concerning water quality. Depending on how the water quality complaint was received, the Customer Service Supervisor, Water Quality Specialist, Operations Superintendent, and Operations Manager will all be made aware of the complaint in a timely manner. The Water Quality Specialist, after receiving the complaint, contacts the customer and discusses their complaint over the phone. Once discussed, if resolution of the complaint has not been reached, the Water Quality Specialist sets up an appointment convenient to the customer at their residence to discuss the issue further and collect samples if necessary. After the samples are collected and analyzed (at the treatment facilities lab), the customer is contacted via the phone and the results are reported. If the sample results are not within the normal operating range (for parameters tested), actions are taken to resolve the complaint/situation. The customer will receive a hard copy of the sample results in the mail. This is conducted at no fee to the customer. Attached is the Operating Procedure for customer complaints.

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Witness Responsible:
Keith Bossung

SIS 1-27 Please provide data or testing schedules indicating how often the Company's water is tested.

Response:

Attached is the MA DEP three year testing schedule, testing logs completed daily by the operators, sample chain of custody for bacteriological samples collected (40+/month in distribution system) and the Belleville Lab schedules for required and additional testing conducted.

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Witness Responsible:
Keith Bossung

SIS 1-28 Please provide data indicating how the Company's water quality compares to other water companies statewide and nationally.

Response:

To compare water quality within a system is very difficult (7 different sources waters in Hingham all of different quality), and more so on a statewide or national basis. Quality is typically a function of the source water, environmental conditions, geological conditions, treatment technologies and distribution infrastructures. Attached is the 2000 data summary for all testing MAWC's Hingham/Hull system. Also included is various Water Quality Reports (aka - Consumer Confidence Reports) for comparison of statewide water quality and other systems in New York and New Jersey.

Water quality in Massachusetts-American compares favorably with other water companies located from New Hampshire to New Jersey. Attached are the Consumer Confidence Reports (CCR) for the following companies:

<u>Company/District</u>	<u># of Pages</u>
Massachusetts-American Water Company - Hingham	3
Massachusetts-American Water Company - Millbury	2
Massachusetts-American Water Company - Oxford	2
Connecticut-American Water Company - Greenwich	2
Connecticut-American Water Company - Darien	2
Connecticut-American Water Company - East Hampton, Mystic/Lantern Hill, Lebanon	4
Hampton Water Works Company	2
Long Island Water Corporation	4
New York-American Water Company	2
Salisbury Water Supply Company	2
New Jersey-American Water Company - Atlantic & Cape May Counties	4
New Jersey-American Water Company - Burlington, Camden, & Gloucester Counties	4
New Jersey-American Water Company - Essex, Morris, Passaic, Somerset, & Union Counties	4
New Jersey-American Water Company - Hunterdon, Morris, & Warren Counties	4
New Jersey-American Water Company - Middlesex, Monmouth, & Ocean Counties	4
New Jersey-American Water Company - Belmar	2
New Jersey-American Water Company - Borough of Avalon	2

continued

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Keith Bossung

SIS 1-28 continued

<u>Company/District</u>	<u># of Pages</u>
New Jersey-American Water Company - South Belmar	2
New Jersey-American Water Company - Township of Mansfield	2
Braintree Water & Sewer	4
City of Worcester	16
Concord Water	8
Milford Water Company	2
Norwell Water	4
Town of Pembroke	4

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Witness Responsible:

Keith Bossung

SIS 1-29 Please provide data concerning the improvements in water quality since the water treatment plant was placed in service. If possible, please provide results of water tests before and after the treatment plant began operation.

Response:

The water quality has drastically improved due to the treatment facility. Attached is a chart with comparisons of key water quality indicators. Prior to the treatment facility going online in 1996, the wells were treated individually at the well stations with various treatment techniques. The customers during this time had major concerns with staining and discoloration caused by the manganese levels. The treatment facility treats all of the sources with the exception of the Downing Street Well (seasonal well not in use during 2000) and exceeds all State and Federal regulations for the Surface Water Treatment Rule. Since the treatment facility has been in operation the manganese levels in the distribution system have improved significantly, as well as the turbidity, Total Organic Carbon (TOC), Trihalomethane (THM), color, and radon.

As can be seen on the attached comparison, turbidity levels have been reduced 85%, from 0.4 NTU pre-plant to 0.06 NTU post plant in 2000 and manganese 95% from 0.4 mg/L to 0.019 mg/L. Color complaints have been reduced from a high of 750 in 1995 to as low as 47 in 1998. Any current complaints regarding color are primarily due to water main flushing programs.

**MASSACHUSETTS-AMERICAN WATER COMPANY
DOCKET NO. 00-105**

**First Set of Information Requests
By the Settlement Intervention Staff
of the Department of Telecommunications & Energy**

Witness Responsible:
Keith Bossung

SIS 1-30 Refer to the prefiled testimony of Mr. Bossung at 7-8. Please indicate how the Company monitors and addresses water pressure problems. Does the Company monitor the performance of the booster station built to enhance water pressures in the Town of Hull? If so, please provide all relevant data.

Response:

The Company monitors general system water pressure at the G.W. Johnstone Water Treatment Facility around the clock. The overall system water pressure is established by the height of water in the Turkey Hill Tank for the main service pressure district(North Hingham, Hull and Cohasset) and by the height of water in the Accord Tank for the high service pressure district(South Hingham). Water pressure is related to height of water and not to volume. A column of water 100 feet high, regardless of the volume of water in the column, will have a water pressure of about 44 pounds per square inch(PSI).

The height of water in all the Company tanks is monitored through a computerized instrumentation system that continuously transmits tank height and other operating data across telephone lines to the control center at the Treatment Facility. Events in the sytem that could cause an abnormal water pressure drop will be observed by the Treatment Facility operator if the event is significant enough to cause an abnormal drop in the height of water in a storage tank. An example of such an event would be a major water main break or a hydrant(s) in use for fire fighting. In the event of an abnormal water tank level drop a supervisor would be notified immediately to determine the cause and undertake any appropriate measures.

Water pressure problems that are triggered by an event that is localized and does not result in a significant change in water tank level, such as a minor water main or water service leak, is generally brought to the Company's attention by a customer, or frequently by the police or fire department. Depending on the particular nature of the situation , the response would range from immediate for a water leak to scheduling a service appointment for investigating a customer's pressure problem. Customer pressure complaints are also logged by the customer service department.

The Hull Booster Pump Station was constructed to address the reduction in domestic water pressure during times of peak water demand when water tank levels are not high enough to meet customer expectations of water pressure in the Telegraph and Allerton

**MASSACHUSETTS-AMERICAN WATER COMPANY
DOCKET NO. 00-105**

**First Set of Information Requests
By the Settlement Intervention Staff
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Witness Responsible:
SIS 1-30 Continued

Hill sections of Hull. The Company monitors the performance of the booster station in an analogous way as it monitors the water tank levels. The Treatment Facility operator uses the instrumentation to continuously monitor the booster station suction and discharge pressure as well as flow rate of water through the booster station. The monitoring is continuous without regard to whether the pump is running or not. The booster pump automatically turns on when the water pressure on the suction side of the pump drops to 70 PSI and the pump works at the rate needed to maintain a pressure of 78 PSI on the discharge side of the pump. At maximum rate the pump will increase the domestic water pressure by 20-30 PSI, depending on customer demand. In 1999 the summer was cooler than normal and the booster pump did not automatically turn on at all because the water pressure at the booster station never dropped below 70PSI. In October 1999, a water main break in the immediate vicinity of the booster station resulted in a drop of station pressure below 70 PSI which caused the pump to activate and run until the broken water main was isolated. Upon the isolation, the booster station pressure returned to a level above 70PSI and the pump automatically shut down. Attached are computer printouts which illustrate the monitoring and operation of the booster pump station.

On occasion, the Company receives water pressure complaints from its customers. As with water quality complaints, water pressure complaints are recorded by the customer service representatives and investigated by a serviceman who visits the customers' premises and determines the nature of the pressure problem. In most cases, the problem has been determined to be caused by faulty, malfunctioning or improperly designed customer piping and/or facilities. In fact, during the test year, only seven "customer pressure complaints" were received, all of which were determined to be customer facility problems.

**MASSACHUSETTS-AMERICAN WATER COMPANY
DOCKET NO. 00-105**

**First Set of Information Requests
By the Settlement Intervention Staff
of the Department of Telecommunications & Energy**

Witness Responsible:
Steven Tambini

SIS 1-31 Refer to the prefiled testimony of Mr. Tambini at 45. Please indicate what additional steps will be taken in the future to address the issue of unaccounted for water. Aside from repairing leaks, did the Company undertake any other measures to reduce unaccounted for water from 1998 to 1999?

Response:

Refer to SIS 1-16, "Unaccounted For Water Reduction Plan Dated February 29, 2000." The Company intends to perform the Comprehensive Leak Detection Survey a minimum of once every two years. However, until unaccounted for water is 15% or less on a year to date basis at December, the Company will perform the survey annually utilizing an outside leak detection consultant. The Company's source of supply meters will continue to be tested and calibrated annually, and customer water meters will be changed and replaced with tested meters a minimum of once every ten years. The Company will continue to utilize computer enhanced data logger "Zone Meters" in its distribution system to locate suspect areas of leakage.

All of these programs (except the data logger program) were utilized in 1998 and 1999 to address unaccounted-for-water.